# *iii. Executive Summary*

## Introduction

***Practitioner Expenditures and Utilization: Experience from 1998*** presents information on the use of health care practitioner services by Maryland residents. The information presented in this report is based on the analysis of the 1998 Medical Care Data Base subset that reflects the services provided by private HMOs/non-HMOs, traditional Medicare and Medicare HMOs (principally Medicare+Choice). The analyses reflect the experience of over 2.5 million recipients that received approximately 26 million health care services during calendar year 1998. Information for this year's effort was gathered in accordance with COMAR 10.25.06, Medical Care Data Base (MCDB) and Data Collection regulations. Fifty-six carriers, including all major health insurance payers and HMOs, submitted information to the Commission. Thirty-four small payers that cover about 2 percent of the market were issued waivers for the 1998 Medical Care Data Base. All HMOs contributed information on fee-for-service (FFS), and seven supplied capitated specialty care encounters.

**Information on Medicaid services is not included in the 1998 report**. Managed care organizations (MCOs) that operate under Medicaid ***HealthChoice,*** Maryland's mandatory managed care program, were at various stages of meeting the state's encounter data reporting requirements in 1998. The Commission reluctantly concluded that using the limited information available on Medicaid services would produce misleading results. The Commission hopes to resume analysis of Medicaid services in future reports.

This report expands on the analyses from previous efforts. First, the Commission is providing independent analyses of the services provided by Medicare HMOs in each chapter. This analysis reflects the services used by Medicare enrollees that joined HMOs during some or all of 1998. Second, the Commission has added an analysis on the relationship between diagnosis and service using the Expanded Diagnostic Clusters (EDCs) categorization system developed at the Johns Hopkins University. This study improves on a limited examination of diagnosis using major diagnostic categories from last year. The Maryland Health Care Commission (MHCC) has added a resource use measurement based on relative value units (RVUs) so that variations in resource utilization and resource intensity can be examined independently from expenditures. This resource-based measurement enables the Commission to compare differences in utilization among the payers and delivery systems independent from the prices paid. Chapter 6 of this report is devoted to an analysis of capitated care and concludes with a preliminary comparison of HMO utilization for capitated and FFS encounters.

## Background on the Practitioner Sector

This report focuses on the services of physicians and other health care practitioners that accounted for $6.2 billion, or about 36 percent, of the $17.0 billion in state health care expenditures in 1998.[1] Maryland's total health care expenditures increased modestly by

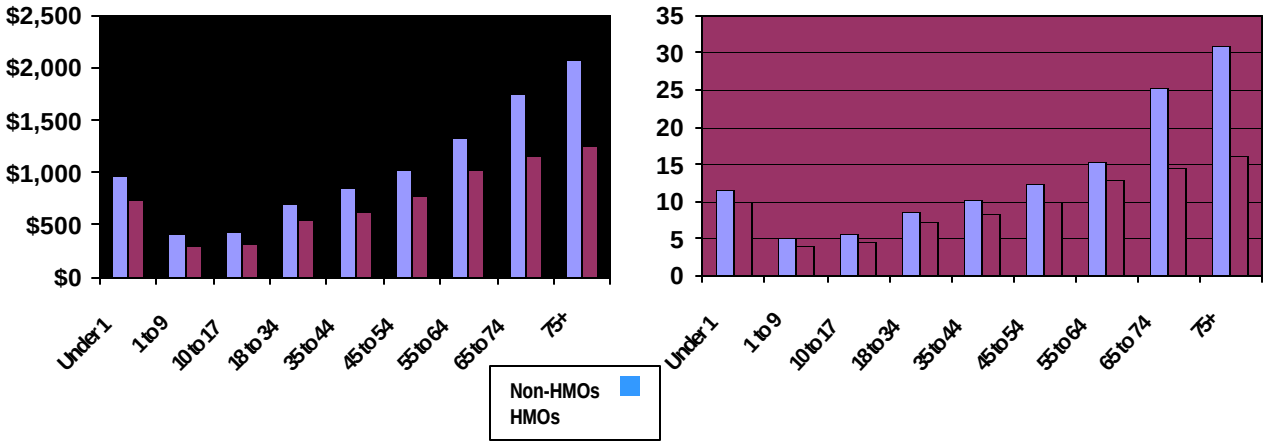
[1] This is the estimated expenditure if public HMO capitation payments are distributed among the service categories in proportions typical of private HMOs in Maryland. Maryland Health Care Commission. *"State Health Care Expenditures: Experience from 1998,"* Table 3-2, p 26.

5.3 percent in 1998, ending a three-year trend of growth under 3 percent. Despite a highly competitive health care sector, the increase was a sharp jump from 1997 when expenditures increased by 1.1 percent from the 1996 level. Spending on physician services for residents grew by 7.7 percent and expenditures for non-physician health care professionals grew by 4.4 percent.[2] The magnitude of the expenditures associated with practitioner services and the role practitioners have in controlling the consumption of other health care services, such as inpatient care and pharmaceuticals, necessitates the more specific studies on practitioner expenditures presented throughout this report.

## Practitioner Services and Patient Characteristics

HMO recipients are generally younger than non-HMO recipients within both the private and Medicare payment categories. In both delivery systems, children's shares of payments and work RVUs is as little as one-half their expected share based on their patient representation. Regardless of delivery system, Figure 1 shows that expenditures and work RVUs are highest for infants and for the adult population beginning at about age 45. The relative increase in utilization for older Medicare beneficiaries compared to younger Medicare enrollees is smaller than the increase in utilization that occurs when the privately insured gain access to Medicare benefits. This finding suggests that for some individuals, the onset of expensive conditions related to aging is relatively rapid after they reach age 65. Children, and to a lesser extent younger adults (18-34), are below average in these same utilization measures.

**Figure 1 -- Mean Expenditures and Work RVUs Per Recipient --1998**




Due to the absence of capitated services and factors such as selection bias and tighter management practices among HMOs, MHCC found that mean total payments are lower for HMO FFS recipients compared to non-HMO patients. Because capitated data is not used, each factor's contribution to the total difference cannot be precisely quantified. Compared to the privately insured, elderly Medicare recipients average 2.7 times more

[2] Physician prices nationally increased by 1.2 percent, as reported in the Bureau of Labor Statistics, Producer Price Index available in ***Health Care Price Index***, May 28, 1998, p 8.

services, 2.9 times more work RVUs, and 2.4 times greater payments. Mean payment per work RVU is greatest in the private non-HMO sector and lowest in the Medicare non-HMO setting.

Average service intensity is higher under the HMO FFS delivery system than in the non-HMO setting.[3] Among private non-HMO recipients, service intensity is greatest for young adults ages 18-34, probably due to the concentration of expensive childbirth services relative to other inexpensive services in this age group.

Private non-HMO patients residing in urban areas use about 20 percent more payments, services, and work RVUs than their rural counterparts. Private non-HMO suburban patients also account for more utilization than rural patients, but with smaller differences. The influence of urban status on utilization is more pronounced among Medicare non-HMO patients. The foundation of the geographic variations is due to differences in the availability of practitioners and in patient characteristics, including a beneficiary's willingness to seek care. Practitioner utilization by HMO FFS patients shows much less variation by patient location, but this finding could be attributed to better care management or could simply be an artifact of using HMO data that does not include capitated services. Suburban patients are apt to receive services of slightly lower intensity compared to urban and rural patients.

## Utilization by Practitioner Specialty

Maryland's supply of physicians is above the national average and above the average for the region. Within the state, physician supply is highest in the National Capital Area and lowest in Southern Maryland. The Baltimore Metro Area has a similar physician supply to the National Capital Area but has fewer office-based and more non-office based physicians. The presence of two medical schools and numerous acute care facilities contributes significantly to this mix. The Eastern Shore and Western Maryland have similar levels of physician supply and fall below the national and regional averages. Both of these regions rely principally on office-based providers to render care. Although payers have aggressively sought discounts from practitioners, no evidence exists to suggest that trends in physician supply are changing. Since MHCC began conducting these analyses in 1995, Maryland has had a physician supply approximately 35 percent above the national level.

A moderate inverse relationship exists between the percentage of a payer population that uses a specialty and the intensity level at which that specialty is used on a per recipient basis. Some specialties treat larger numbers of patients with less resources and others treat fewer patients at high intensity levels. **Specialty care physicians, as a group, receive the largest share of all dollars allocated by each payer.** These patterns are consistent with supply levels because medical and surgical specialists constitute about two thirds of all physicians providing patient care in Maryland. The analysis of patient use patterns shows that, on average, these practitioners have the highest payments and RVUs per recipient. However, these relationships are not strong and the confounding effect of capitation must be considered before reaching any conclusions.

[3] Service intensity is measured by dividing total mean work RVUs by the mean number of services per recipient.

**Non-HMO spending per recipient is higher than spending by HMO FFS for private payers and Medicare. Differences are significant: 41 percent higher for private payers and 62 percent higher for Medicare.** Patient management practices, selection bias, and most importantly, the exclusion of capitated data, likely contribute to these differences. The absence of capitated information is a major factor why conclusions must be carefully qualified. For private payers, the impact of capitation is particularly difficult for primary care utilization where non-HMO spending exceeds HMO spending $215 to $106, despite HMO preferences to use primary care providers. Primary care is one sector of physician practice where the use of capitated contracting is most common.

**Overall per recipient utilization is higher for private non-HMOs, but per recipient spending on specialty care physicians is approximately the same at about $340 per recipient under the two delivery systems.** The average work RVUs are slightly higher in the HMO setting as reflected in RVUs at 4.15 vs. 4.5. Among Medicare patients a different pattern emerges, the per recipient utilization measured by spending and RVUs is significantly higher through the non-HMO traditional Medicare program. This pattern is consistent for all specialty physician categories. Non-physician providers experience significantly lower overall HMO utilization regardless of the services provided. Chiropractors, psychologists, podiatrists, and other non-physician practitioners experience significant declines in demand for their services when care is delivered through an HMO. Because of missing capitated information, this conclusion must be interpreted cautiously as these practitioners may also render care under non-FFS arrangements.

## Practitioner Utilization by Type of Service

Considerable differences exist among the four payer types in the composition of practitioner services reimbursed on a FFS basis during 1998. The underlying sources of these differences include the unique nature of HMO FFS services, age differences of the insured populations, different reimbursement rates for services, and different demographic characteristics of the insured populations related to enrollment preferences. Overall, HMO services tend to be more complex, or service intensive, than non-HMO services. Among patients insured by private plans, however, greater service intensity is limited to procedures and evaluation and management (E&M) services. HMO services among Medicare patients are more intensive per service regardless of service category.

Procedures, including major and minor surgeries, have the highest per recipient reimbursement among HMO patients, while in the non-HMO settings, E&M services have the highest mean reimbursement. In private payers, this gap is moderated by lower HMO reimbursement per work RVU, which overall is only 6 percent below the non-HMO rate and for procedures is 12 percent below the respective non-HMO rate, suggesting that HMOs are more aggressive in obtaining FFS discounts for surgical services. Conversely, in Medicare, the significance of procedures is exaggerated in reimbursements because HMOs' reimbursement rate for procedures is 25 percent higher than the rates paid by traditional Medicare using the Medicare Fee Schedule. Medicare reimbursement on a work RVU basis is lowest of all payers. Overall, Medicare-HMO FFS reimbursement per work RVU is about 15 percent higher.

Age differences are a primary source of diversity in service utilization between

HMOs and non-HMOs for private payers. The higher concentration of children in private HMO recipients contributes to the similarities in the mean immunization/other services utilization. The higher percentage of young adults (18-34) among HMO recipients is likely a factor in a greater significance of obstetrical care among high aggregate payment services for HMOs compared to non-HMOs.

Enrollment preferences may play a role in utilization patterns. The greater significance of obstetrical care in HMO FFS services could result from a preference for HMO enrollment by women who are, or expect to become, pregnant. Because HMOs provide more comprehensive coverage of pregnancy and well-baby care, the enrollees would incur lower out-of-pocket expenditures in HMOs compared to the usual non-HMO benefit. HMO recipients also appear to have a greater likelihood of complicated pregnancies than non-HMO recipients. This conclusion is supported by the high aggregated payment analysis where Cesarean delivery ranks higher and accounts for a greater share of total payments in private HMO FFS than in non-HMOs.

Other differences in utilization may be related to treatment practices. In Medicare non-HMO recipients the most common invasive cardiac procedure is coronary artery bypass graft (CABG), whereas for Medicare HMO FFS recipients the most common invasive cardiac procedure is coronary artery dilation. This difference may represent a more conservative approach to treatment on the part of HMOs, but it also could be related to the younger age of HMO FFS recipients. This result is preliminary and a more detailed analysis is needed.

## Geographic Differences of Service Utilization

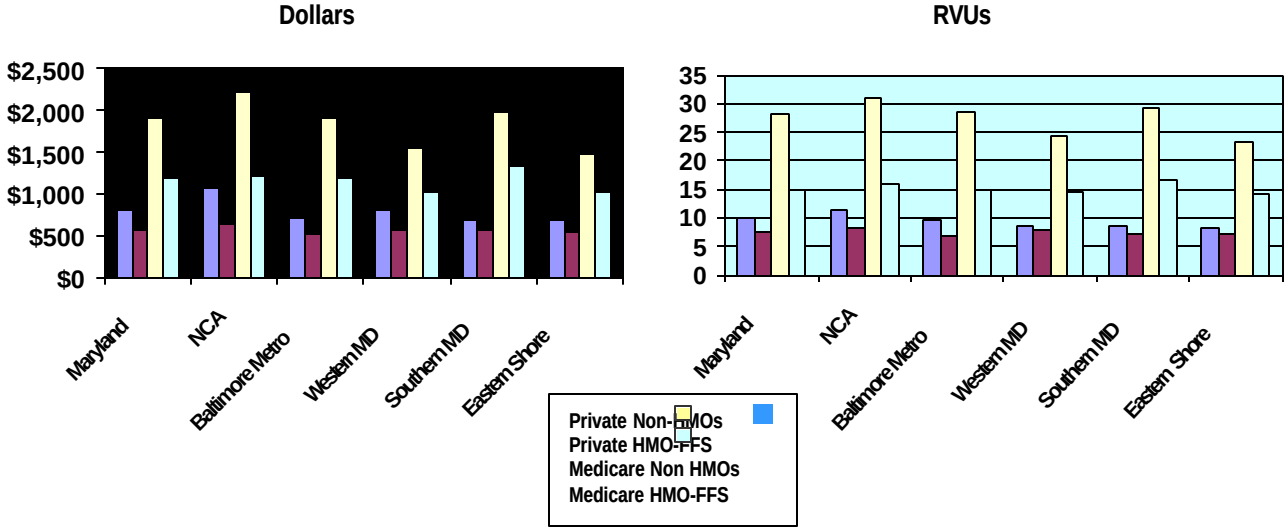
Maryland residents are more likely to cross state borders for specialty care than for routine services. **The services with the highest rates of out-of-state utilization are specialized procedures, including corneal transplants, cardiovascular procedures such as CABG, radiation oncology, and imaging procedures such as MRIs.** Emergency services also have above-average out-of-state utilization rates due to the unpredictable need for this type of care. On average, Maryland residents' utilization of out-of-state practitioner services ranges from about 15 percent of the private HMO FFS work RVUs to 10 percent of Medicare non-HMO work RVUs. Out-of-state utilization is higher in private patients than in elderly Medicare recipients. Among the private patients, border crossing for services tends to be slightly higher for HMO FFS service compared to non-HMO services. The specialized nature of HMO FFS services is a reasonable explanation for the increased likelihood of border crossing to tertiary hospitals or to seek care from a recognized provider. Another possibility to consider is the location of HMO markets which are more concentrated in the urban areas that encompass three of the counties with the highest rates of border crossing. Finally, contractual arrangements by HMOs which send patients across the border could contribute to this pattern.

Maryland residents who live in counties that border Delaware, Washington DC, and West Virginia are the most likely to receive insured practitioner services outside of Maryland. Border crossing by elderly patients is related to the location of the nearest tertiary care hospitals and specialty care. Border crossing in privately insured patients follows commuting patterns, as well as the nearest location for specialty care. Border

crossing by patients covered by HMOs and non-HMOs is highest for residents of Cecil County, where residents use services provided in the Wilmington DE Metropolitan Area. Obtaining services in Washington DC is most common for those covered by private non-HMO insurance who live in Prince George's and Montgomery counties.

Comparisons of practitioner service utilization exhibit considerable regional variation in the average payment and work RVUs per recipient, as shown in Figure 2. Regional variation in utilization is greater for non-HMO services than for HMO FFS services. Utilization by residents of the National Capital Area (NCA) tends to be greater than in the other regions. Except for Medicare non-HMO beneficiaries, the average NCA resident uses more complex services than their counterparts in other regions. For all payers except Medicare HMO FFS, the NCA averages the highest mean payments and number of work RVUs per recipient. The NCA has higher utilization measures because patients in this region receive more intensive services across most categories of care. Average payment per RVU tends to be higher in the NCA than in any other region.

**Figure 2 -- Mean Expenditures and Work RVUs Per Recipient --1998**
**By Region**




## Service Utilization in Private HMOs and Non-HMOs: The Impact of Capitated Services

This is the first year that an analysis of capitated data has been performed. Conclusions reached on capitated services are based on capitated encounters provided by six HMOs. Given the nature of capitation, this analysis focuses on characteristics other than payment. Within HMOs, the volume, distribution, and nature of capitated services differ in several ways from FFS services. First, the number of services and work RVUs per recipient are higher for FFS arrangements than for capitated arrangements, regardless of recipient age or type of service. Second, both reimbursement arrangements tend to conform to a pattern of high (or highest) service utilization by infants which declines for young children, further declines for older children, and then increases with age. However, capitated service use per recipient is highest for infants, while in HMO FFS arrangements, older adults (ages 55-64) and Medicare recipients average greater service use than infants.

Third, service intensity (mean work RVU per service) is higher for services reimbursed under FFS than under capitated arrangements. This is true regardless of recipient age, and suggests that the complexity of services provided under FFS is higher.

The gap between the services and RVUs per recipient provided under capitation compared to FFS grows with age (excluding infants). Increasing use of FFS services with age is consistent with the growing need for complex specialty care as individuals age and is consistent with the policy of Maryland HMOs to reimburse most specialists through FFS. Despite the expanded use of FFS with increased age, recipients of capitated services tend to be older than recipients of HMO FFS services in both private and Medicare HMOs. This result may be attributable to greater shares of older enrollees seeking care. However, this result must be interpreted cautiously due to the current status of capitated information.

Comparisons of capitated and billed services by broad type of service categories show that per recipient total services and work RVUs are higher among HMO FFS recipients for all categories, except for tests in private HMOs. For tests, about the same number of services and slightly more work RVUs are provided through capitation vs. FFS. This finding suggests that HMOs may use either capitation or FFS to cover a broad spectrum of tests. Although overall service intensity is higher in the FFS setting, the service intensities of private HMO childhood immunizations, imaging services and tests are greater in the capitated setting. However, comparisons of the Berenson-Eggers Type of Service (BETOS) subcategories indicate that billed services are somewhat more likely to be specialized types of E&M services, procedures, tests, and imaging services. This lends support to the hypothesis that highly specialized care continues to be largely rendered through FFS arrangements rather than through capitation.

Considerable work is needed to better understand what services are capitated and what information on capitated services is supplied to the Commission. In the coming months, the Commission will continue to evaluate the capitated data and work with HMOs to address the questions raised. These issues include whether HMOs are more likely to reimburse specialty care using FFS rather than capitation, and possible age and health status differences in capitated and FFS populations.

## Next Steps

This report used a more sophisticated analytic technique than had been employed in previous reports. Many of the conclusions related to HMO care must be qualified due to limited information on capitated services. Analysis of these capitated services will remain a high priority over the next several years. The Commission is especially interested in examining how HMO and non-HMO service utilization compares when capitated services are included in the HMO total. Because the submission of data on primary care encounters is voluntary for HMOs, the Commission will have to determine if significant amounts of encounter data for primary care services are missing before conducting such studies.